

REMARKS

Claims 1-11 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejection in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Steinfeld (U.S. Pat. No. 6,692,100) in view of Sharma (U.S. Pat. No. 6,554,391). This rejection is respectfully traversed.

In rejecting the claims, the Examiner alleges that the claimed invention would have been obvious in view of the Steinfeld and Sharma references, noted above. Applicant respectfully asserts, however, that the Examiner's allegation of obviousness is erroneous because there is no reasonable motivation to combine the Steinfeld and Sharma references. That is, there is no teaching or suggestion in either the Steinfeld or Sharma references that would have led a person of ordinary skill in the art to combine the prior art teachings in the particular manner claimed. See *In re Rouffet*, 149 F.3d 1350, 1357.

Specifically, when combining references, the test for obviousness requires that the nature of the problem to be solved be such that it would have led a person skilled in the art to combine the prior art teachings in the particular manner claimed. *Id.* at 1357. The Examiner, however, appears to have applied an incomplete teaching-suggestion-motivation test in making the obviousness determination because genuine issues of

material fact exist as to whether a person of ordinary skill in the art would have been motivated to combine the teachings of the Steinfeld and Sharma references.

More particularly, the present invention, as described on page 3, line 20 to page 4, line 2 of the specification, is directed to improving wiping performance by minimizing the distance between the pressing member and the cleaning ejection member. Another problem to be solved by this invention, as described on page 4, lines 2-12 of the specification, is how to minimize the consumption of an expensive wiping sheet.

To solve these problems, the present invention provides, as recited in claim 1, a wiping unit for a liquid droplet ejection head wherein a cleaning liquid ejection member is mounted on the wipe-off unit so as to be positioned below a horizontal surface coincident with the nozzle surface and on a feeding side of the wiping sheet relative to the pressing roller in a state in which the wiping sheet is pressed to the nozzle surface. The wiping sheet is fed from below to the pressing roller through a space between the pressing roller and the cleaning ejection member, and a cleaning liquid is ejected from the cleaning liquid ejection member toward the wiping sheet passing through the space. Neither Steinfeld nor Sharma teach or suggest such a structure.

In contrast, Steinfeld discloses at column 11, lines 41-53 that, “[r]eciprocation of chassis 440 backward and forward a single time is defined herein as a cleaning cycle. When chassis 440 translates in the forward direction (i.e., toward the front of printer 10), the portion of web 240 that is partially wrapped around drive roller 280 will engage surface 45 of print head 40 to clean surface 45.” This disclosure, however, is completely silent with respect to ejecting a cleaning liquid toward the wiping sheet, as claimed. In fact, Steinfeld is completely silent with respect to any disclosure of a

“cleaning liquid ejection member,” as claimed. Steinfeld also fails to teach or suggest that the wiping sheet is fed from below to the pressing roller through a space between the pressing roller and the cleaning liquid ejection member, as claimed.

With respect to Sharma, Sharma discloses at column 6, lines 43-55 that:

“The cleaning mechanism 140 includes a rotating disk cleaning assembly 32, disposed for detecting cleaning liquid 300 carried in or on a soft absorbent covering 195 on disk 190 to surface 15 and nozzles 25. Disk 190 moves along the print head surface 15 and across nozzles to clean contaminant 55 therefrom. Disk 190 may be constructed of a soft absorbent material such as felt, polyurethane sponge or expanded polytetrafluoroethylene so that the cleaning liquid supplied to it is absorbed by the soft absorbent covering. During cleaning, cleaning liquid 300 in or on soft absorbent covering 195 provides chemical cleaning and lubrication between disk 190 and print head surface 15.”

Also, at column 7, lines 27-32, Sharma teaches that “print head surface 15 and nozzles 15 are in contact with soft absorbent material 195 of disk 190. Thus, as print head 16 continues to travel along direction of arrow 44a, contaminant 55 on print head surface 15 and in nozzles 25 is removed by the disk 190.”

By these disclosures Sharma is directed to a device that utilizes a rotating disk to clean a print head. Furthermore, although the disk performs the same function as the web of Steinfeld, the test for obviousness is not whether the disk of Sharma is a functional equivalent of the claimed wiping sheet or the web of Steinfeld. Instead, as stated above, the proper test for obviousness is whether one skilled in the art would have been motivated to combine the rotary disk of Sharma with Steinfeld or not. This

motivation must be based on the nature of the problem to be solved, which as also stated above, is required to be such that it would have lead a person of ordinary skill in the art to combine the prior art teachings in the particular manner claimed.

With this test in mind, Applicant respectfully asserts that the rotary disk of Sharma is not in the form of a "wiping sheet" which is "fed" as recited in claim 1 of the present invention. In contrast, by teaching a rotary disk, Sharma et al effectively teaches away from a structure to be "fed from below to said pressing roller" as recited in claim 1. Therefore, Sharma teaches a device that is contrary to the problem to be solved by this invention.

Because each prior art reference is silent with respect to a wiping sheet that is fed from below to the pressing roller through a space between the pressing roller and the cleaning liquid ejection member, as claimed, it follows that neither reference contains the requisite teaching, suggestion, or motivation which is required to lead one skilled in the art to arrive at the invention as recited in claim 1. Moreover, it follows that neither reference is concerned with the problems to be solved by the present invention. As such, Applicant respectfully asserts that claim 1 and each corresponding dependent claim would not have been obvious.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

ALLOWABLE SUBJECT MATTER

The Examiner states that claim 2 would be allowable if rewritten in independent form. Applicant acknowledges, with thanks, the allowable subject matter of claim 2.

Notwithstanding, as set forth under the rejection under 35 U.S.C. § 103, Applicant believes that claim 1 and each corresponding dependent claim are non-obvious and in condition for allowance.

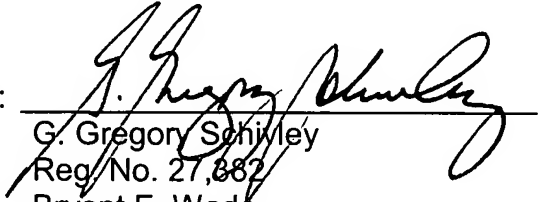
CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: _____


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